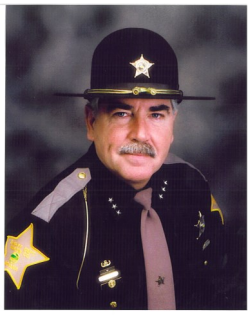
Annual Report 2013

INDIANAPOLIS - MARION COUNTY
FORENSIC LABORATORY

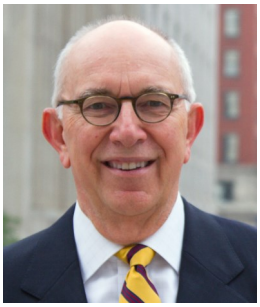
2013 Forensic Services Board

Richard Hite
Board Chairman
Chief, Indianapolis Metropolitan Police Department



John Layton
Marion County Sheriff

Billie Breaux
Marion County Auditor



Terry Curry
Marion County Prosecutor

Dr. Frank P. Lloyd, Jr.
Board Secretary
Marion County Coroner

Robert Hill
Marion County
Chief Public Defender

Dr. Kenna Quinet
Mayoral Appointee
Associate Professor
IUPUI (SPEA)

David Cook
Mayoral Appointee
(Replacement for Quinet)

Dr. Sam Nunn
City-County Council Appointee
Professor, IUPUI (SPEA)

We are grateful for the dedication and wisdom of our Forensic Services Board. In spite of their busy lives, filled with other responsibilities, they selflessly gave of their time to serve in 2013. We also acknowledge the following individuals for the same commitment:
Director Drew Carlson, Marion County Auditor's Office (proxy for Auditor Breaux);
Attorney David Lichtenberger, Office of Corporation Counsel.

Michael M. Medler, Laboratory Director

In past annual reports, the term "accreditation" under the American Society of Crime Laboratory Directors/Laboratory Accreditation Board-*International* has been expressed as an accomplishment of the Indianapolis-Marion County Forensic Services Agency. Accreditation is a "quality assurance program" where criteria are established for laboratory management and operations, personnel qualifications, and the physical laboratory. The following are general compliance examples required of the forensic laboratory:

- Procedures to protect evidence from loss, cross-transfer, contamination, and/or deleterious change;
- validated and documented technical procedures;
- the use of appropriate controls and standards;
- calibration procedures;
- complete documentation of all evidence examination;
- documented training programs that include competency testing;
- technical review of a portion of each examiner's work product;
- testimony monitoring of all who testify; and
- a comprehensive proficiency testing program.

In 2013, we analyzed 55,493 items of physical evidence while completing 12,351 cases and our overall case submissions have grown to 13,153 cases. The significant areas of case backlogs are in latent fingerprint development, firearms, and serology, in which our six week case completion goal is not achieved. In November 2013 the Forensic Services Board was expanded to include the Chief Public Defender and Marion County Prosecutor, reaffirming the "neutral" or "non-bias" philosophy of the I-MCFSA.

In conclusion, it is my honor and privilege to work with the professionals at the I-MCFSA. These dedicated and committed personnel are established forensic scientists, crime scene specialists and technicians who are counted on by the criminal justice system and the community every day to provide scientific, ethical and reliable results.

Michael M. Medler
Laboratory Director

Forensic Service Built on a Foundation of Quality, Integrity, Accountability, and Ethics

Overview

The I-MCFSA (Crime Lab) began operations in 1986, providing services to all law enforcement agencies in Marion County. The Crime Lab provides scientific testing on items of evidence recovered in criminal cases by its own Crime Scene Specialists, Forensic Evidence Technicians working in the Marion County Morgue, and any other police investigators working crimes that occurred in Marion County. Forensic analysis is conducted in the fields of Drug and Trace Chemistry, Latent Fingerprints, Serology & DNA Analysis, Firearms, Toolmark, Footwear & Tiretrack Comparisons, Forensic Documents, Photography, Videography and Digital Imaging. The laboratory provides expert testimony in these areas when requested.

Staffing

The I-MCFSA is authorized 68.6 full time equivalent employee positions. This number is equal to the 2009 staffing level however, seven (7) open positions remained unfunded during 2013: two (2) DNA Analyst positions, and five (5) Crime Scene Specialists.

I-MCFSA
Forensic Evidence Specialists

Caseload

Over 55,000 items of evidence were received and over 12,000 cases were completed by the Crime Lab in 2013. Some of the larger areas included Drug Chemistry with over 21,000 evidence items, the Crime Scene Unit with over 8,300 evidence items, and the Biology Unit with over 6,300 evidence items analyzed during the year.

The I-MCFSA is still working toward a goal of an average six-week turnaround in each laboratory section. Personnel shortages caused larger turnaround times during 2013. The Crime Scene Unit, Forensic Evidence Technician Section and Chemistry Units were the only sections meeting this goal at year end. DNA analyses were averaging around eight (8) weeks turnaround with other processing/ analyses taking significantly longer.

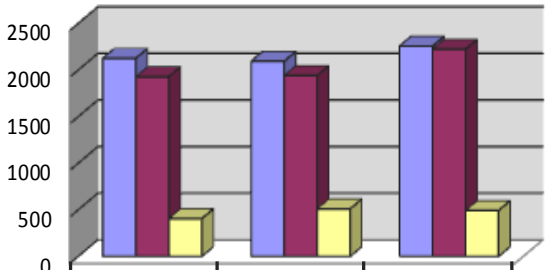
Criminalistics Unit - Firearms Section

The Firearms / Toolmarks Section test fires firearms and compares ammunition components to suspect firearms, fired bullets and cartridge cases from different crime scenes, toolmarks created at crime scenes to suspect tools and shoe / tire impressions recovered at crime scenes to suspect shoes and tires. This section utilizes the Forensic Technology Incorporated BrassTrax-3D system in conjunction with the ATF National Integrated Ballistics Information Network as an investigative tool to link evidence from various crime scenes involving firearms. Firearm Examiners and a Firearm Technician entered 577 forensic evidence fired cartridge cases and 1705 test fired firearms into the BrassTrax-3D system in 2013. This resulted in 84 "hits", or links between ammunition components and firearms or ammunition components in different criminal cases during the year (14 on homicide cases), bring the total "hits" in the laboratory to 571 since the installation of this technology.

The staff of the Firearms Section consists of five (5) Firearms Examiners, one of which supervises the section, and a Firearms Technician (one position is unfunded). The chart below depicts Firearms Section casework activity in recent years.

Processing firearm evidence.

Firearms and NIBIN Examinations

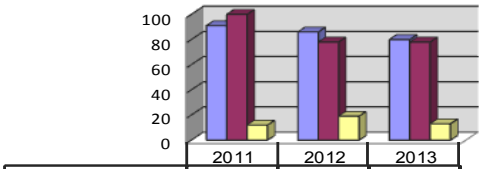


	2011	2012	2013
Case Submissions	2125	2094	2257
Completed	1928	1941	2223
Backlog	405	510	492

Criminalistics Unit - Forensic Documents Section

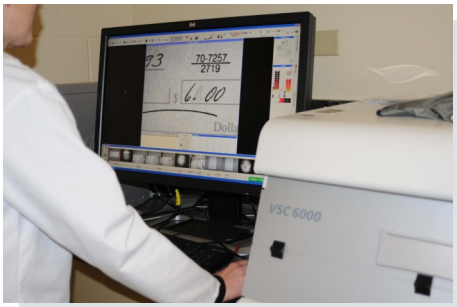
The Forensic Documents Section is staffed with one (1) Forensic Document Examiner. In order to comply with accreditation criteria, the I-MCFSA has an MOU with the Indiana State Police Laboratory for case identification verifications and technical review requirements. The majority of the work is comprised of handwriting comparison – the identification of the writer of documents used in crimes (i.e., charge card receipts, robbery notes). This section also examines indented writing, inks, altered or counterfeit documents, photocopiers, typewriters and other machines or tools used to create documentary evidence.

Forensic Document Examinations



	2011	2012	2013
Case Submissions	91	86	80
Completed	100	78	78
Backlog	12	19	13

Check Alteration



Forensic Service Built on a Foundation of Quality, Integrity, Accountability, and Ethics

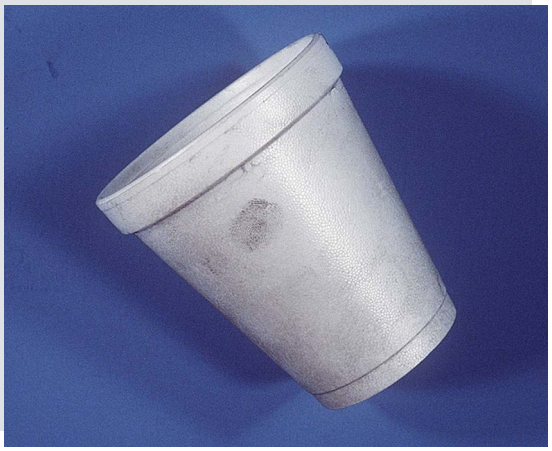
Criminalistics Unit - Latent Print Section

Latent prints are invisible replications of the details found in the friction ridge-covered skin on the fingers, palms, toes and soles of a person's feet. This detail is made visible with various processing techniques: dusting with powders, the application of chemicals, and specialized lighting techniques. Once the print is visible it must be preserved by the use of photography, the application of tape, or some other means so that it can be examined and compared.

The I-MCFSA employs four (4) Latent Print Technicians who process items using various techniques, depending upon the surfaces and composition of the evidence. They capture any ridge detail which becomes visible, generally through the use of digital photography or by making powdered ridge detail stable with adhesive tape. The lab's Crime Scene Specialists and Forensic Evidence Technicians also employ the same latent print processing and preservation techniques when at crime scenes, or on evidence brought to the laboratory. The preserved ridge detail is then transferred to a Latent Print Examiner whose job is to examine the detail and determine if it is identifiable, and if so, who deposited it at the scene or on the item of evidence. The I-MCFSA employs three (3) Latent Print Examiners who are classified as Forensic Scientists.

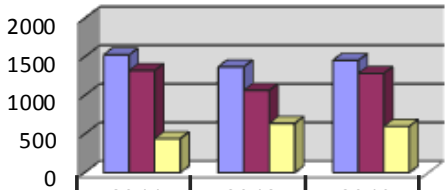
Latent prints are either compared to suspects named as a part of the investigation or entered into the Automated Fingerprint Identification System (AFIS) if suspects are unknown. AFIS is a database which contains the digital replication of known prints of convicted felons and other people (i.e., criminal justice system employees) as determined by the jurisdiction who owns the system. AFIS makes a digital comparison between unknown latent prints and the known database prints and produces a list of individuals whose prints may match the unknown evidentiary prints. The Latent Print Examiner must still make a side-by-side comparison between the known and unknown prints in order to identify or exclude individuals as having left the latent print, regardless of the AFIS results.

AFIS is also used to store unidentified evidentiary latent prints and continually compares them against the known database as it expands. The system notifies an examiner regarding any potential "hit," or possible match between the unknown prints and known prints of people being added to the database. A total of 278 subjects were identified on latent prints developed by the Crime Lab during the year, many of which resulted from serious and violent crimes.



Fingerprint developed using black powder on a Styrofoam cup.

Latent Fingerprint Processing & Comparison



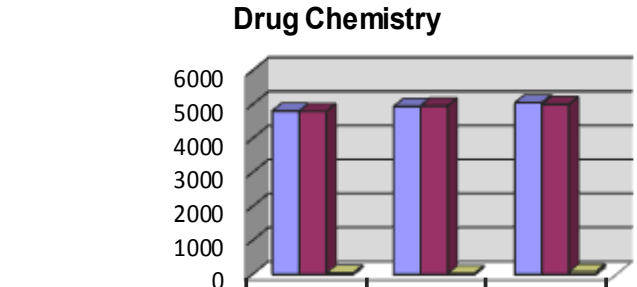
	2011	2012	2013
Case Submissions	1525	1370	1453
Completed	1323	1066	1286
Backlog	439	637	600

Chemistry Unit - Drug Chemistry Section

The Drug Chemistry Section is staffed with seven (7) full-time Drug Chemists (one of which supervises the Chemistry Unit). This section tests suspected drugs to determine the presence and weight of any controlled substances. Marijuana, cocaine, methamphetamine and heroin are the most commonly identified controlled substances, however, various pills, steroids, designer and synthetic drugs are also identified. Multiple tests are conducted on all suspected controlled substances received by the Crime Lab. The testing accomplished on each piece of evidence is determined by scientific principles and protocols used by Forensic Scientists and accredited laboratories throughout the country.

The Indianapolis Metropolitan Police Department's preliminary testing program, which started in 2005, is still successfully spot testing commonly found drugs of abuse, resulting in fewer submissions to the Crime Lab's Drug Chemistry Section. Only those cases which are scheduled for trial, or where testing is requested for other reasons, are submitted to the laboratory for confirmatory drug testing.

Necklaces containing Heroin

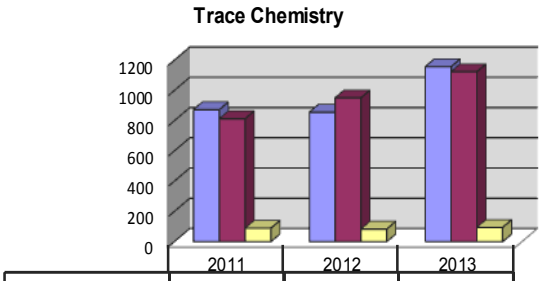


	2011	2012	2013
Case Submissions	4814	4942	5058
Completed	4804	4963	5002
Backlog	41	31	79

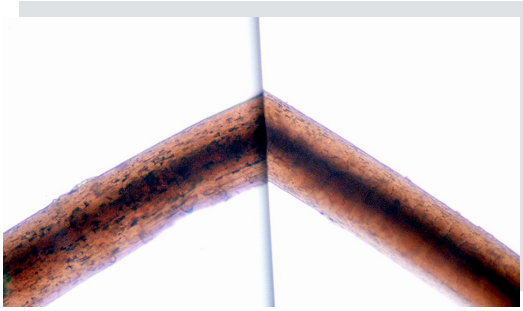
Chemistry Unit - Trace Chemistry Section

The Trace Chemistry Section is now staffed with two (2) Trace Chemists.

This section tests and/or compares hairs, fibers, fire debris, blood alcohol, physical matches, plastics, auto headlamps, and other evidentiary items. Blood alcohol testing is also a responsibility of this section.



	2011	2012	2013
Case Submissions	873	856	1157
Completed	813	951	1124
Backlog	89	83	94



Wig Fiber Comparison

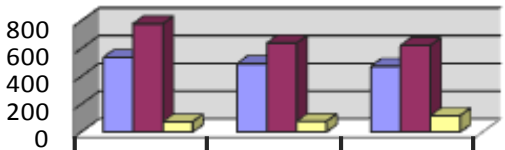
Biology Unit - DNA & Serology Sections

The Biology Unit consists of two sections: DNA Analysis and Serology. It is staffed with six (6) DNA Analysts, five (5) Serologists, and a Technician; two (2) of which are supervisors in the unit - a DNA Section Supervisor/Technical Leader and a Serology Section Supervisor. Four (4) of the DNA Analysts are also proficient in serological analysis, three (3) of the Serologists are in training to become proficient in DNA analysis and one (1) of the DNA Analysts is in training for serological procedures.

All DNA cases begin with the examination of evidence by Forensic Scientists. They examine the evidence employing various visual, microscopic, and chemical techniques in search of potential biological stains. Once found, the Serologist documents, identifies, and prepares samples of the biological stains for the DNA Section. Clothing, bedding, weapons and other evidentiary items are carefully documented and sampled during the Serologist's search for biological stains.

DNA Analyst Preparing Samples for Analysis

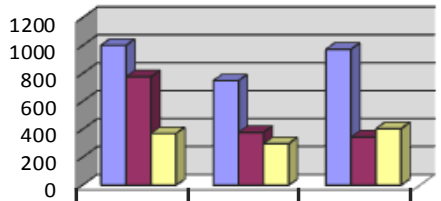
DNA Analysis



	2011	2012	2013
Case Submissions	536	492	473
Completed	778	640	623
Backlog	74	76	118

The DNA Section develops DNA profiles from evidentiary samples for comparison with DNA profiles of suspects, or for submission into the CODIS database. This database is particularly useful when a biological sample is obtained from the crime scene and known suspects do not exist. CODIS allows unknown profiles to be searched against other profiles in the database, which are generally those of convicted felons, arrestees (in some states) and unknown profiles from other cases. At the present time there are over thirteen million (13,000,000) DNA profiles in the national database.

Serology



	2011	2012	2013
Case Submissions	1003	749	974
Completed	778	379	345
Backlog	371	297	405

Serologist Preparing Sample for Transfer to DNA

Crime Scene Unit - Crime Scene Section

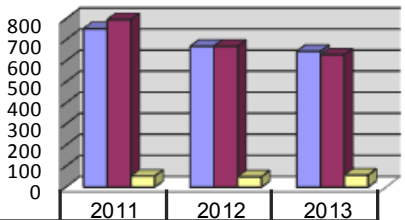
The Crime Scene Unit consists of two sections: the Crime Scene Section and the Forensic Evidence Technician Section.

The Crime Scene Section is staffed 24 hours a day, 365 days a year. A total of thirteen (13) full time Crime Scene Specialists, including a supervisor and a technical leader, have staffed the unit, with augmentation from several certified reserve members from other forensic disciplines assisting at various time during the year, due to unfunded staffing. The crime scene unit members are divided among three shifts to provide around-the-clock coverage for all law enforcement agencies in Marion County. These staffing issues presented a challenge at times during the year, since five (5) of the eighteen (18) slated Crime Scene Specialist positions were unfunded.

This section responded to 637 crime scenes during 2013, the majority of which were serious crimes against a person. Specialists process crime scenes by conducting thorough searches, documentation, evidence collection, scene sketches, as well as photographing the evidence and scene using still and video cameras.

Processing a Tarp for Prints

Crime Scene Section

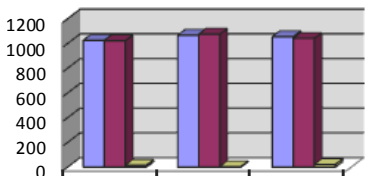


	2011	2012	2013
Case Submissions	753	669	646
Completed	796	670	629
Backlog	52	49	57

Crime Scene Unit - Forensic Evidence Technician Section

The Forensic Evidence Section attends autopsies to take photographs and collect physical evidence, including: clothing, rolled fingerprints, blood, hair, fibers, bullets, and other trace evidence. To ensure evidence integrity from the hospital to the Biology Unit, the four (4) Forensic Evidence Technicians, including a supervisor, also collect and process sexual assault kits from all Marion County hospitals. Forensic Evidence Technicians are also trained to handle video and photo applications within the laboratory, which includes responsibility for the I-MCFSA crime scene videotape library, camera and digital imaging equipment, etc. They are trained to use the lab's dTective Forensic Video Examination System for applications involving surveillance and other types of video.

Forensic Evidence Technician Section



	2011	2012	2013
Case Submissions	1025	1067	1055
Completed	1022	1075	1041
Backlog	15	4	21

Drying Clothes from Autopsy

Administrative Unit

Administrative staffing consists of nine and six-tenths (9.6) positions (the 0.6 representing a part time position), including: a Director, Deputy Director/Quality Assurance Manager, Forensic Operations Manager, Forensic Administrator, three and six-tenths (3.6) Forensic Evidence Specialists, and a custodian. Areas of responsibility include the quality assurance program, budget management, purchasing, information technology, security, human resources, grant management, evidence handling and administrative functions.

Staffing

The lab closed the year with seven (7) unfunded positions and one vacant position.

Accreditation

The I-MCFSA maintained its American Society of Crime Laboratory Directors/Laboratory Accreditation Board – *International* Accreditation during 2013, successfully completing the annual surveillance visit. The purpose of this accreditation includes: to improve the quality of laboratory services; to maintain standards by which the laboratory can assess its performance and strengthen the operation; to provide an independent, impartial, and objective system for a total operational review; and to offer to the general public and to users of laboratory services a means of identifying those laboratories which have demonstrated compliance with established standards.

Grant Management

A component of the continued success of this agency is the receipt of State and Federal Grant monies. This agency continually pursues grant opportunities and has been fortunate in receiving federal and local awards. The I-MCFSA was successful in receiving grant awards totaling over $685,181 for the purchase of equipment for several sections of the laboratory, to provide training and development for the Forensic Scientists, to purchase supplies, to assist in the analysis of DNA cases and to provide three (3) grant funded personnel and overtime for various sections of the laboratory to assist in decreasing the overall laboratory backlog.

Annual Budget	2011	2012	2013
Annual Budget	$6,731,082	$6,561,670	$6,884,418
Expenses			
Personal Services	$5,042,466	$5,061,859	$5,639,553
Materials and Supplies	$ 497,893	$ 456,861	$ 439,507
Services and Charges	$ 920,973	$ 841,785	$ 759,483
Properties and Equipment	$ 269,750	$ 201,165	$ 45,875
Funding Sources			
County General Fund	$4,854,751	$5,514,492	$5,880,872
State and Federal Grants	$1,012,068	$1,047,178	$1,003,546

Administrative Unit

Procurement

Approximately 491 individual purchases were made in 2013. Additionally, preparations were made in anticipation of new purchasing software.

Budget

Budget adjustments continued to be made during the year. Reduction in spending was accomplished through attrition and continued efforts to streamline processes where possible. Cost cutting measures enabled this agency to end the fiscal year with a 97% spend rate.

Appropriated state and federal grant monies of $1 million, of which $711,421 was spent, providing much needed funding to allow the purchase of additional analytical equipment, overtime funding and the ability to continue to provide professional development of laboratory staff.

Forensic Evidence Specialist transferring evidence for analysis

LIMS – Laboratory Information Management System

Testing of Windows 7 operating system will begin in preparation for migrating all PCs in 2014. Related to this project, 79 barcode label printers will need to be installed. Upgrading to Windows 7 is a prerequisite for upgrading the agency's Case Management application, also scheduled for 2014.

Training and Tours

Over 2,200 people, including Marion County Judges, police officers and college students, received training and/or tours from Crime Lab personnel during 2013. General evidence technician courses were again provided to IMPD Evidence Technicians and recruit classes.